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FEB 14 2001

RAW SEQUENCE LISTING
PATENT APPLICATION: US/09/669,187A

DATE: 02/05/2001
TIME: 14:58:29

Input Set : A:\C1039-7035seq.txt
Output Set: N:\CRF3\02052001\I669187A.raw

P.S

ENTERED

```
 4 <110> APPLICANT: Krieg, Arthur M.
 5         Schetter, Christian
 6         Vollmer, Jorg
 8 <120> TITLE OF INVENTION: Immunostimulatory Nucleic Acids
11 <130> FILE REFERENCE: C1039/7035 (HCL/MAT)
13 <140> CURRENT APPLICATION NUMBER: US 09/669,187A
14 <141> CURRENT FILING DATE: 2000-09-25
16 <150> PRIOR APPLICATION NUMBER: US 60/156,113
17 <151> PRIOR FILING DATE: 1999-09-25
19 <150> PRIOR APPLICATION NUMBER: US 60/156,135
20 <151> PRIOR FILING DATE: 1999-09-27
22 <150> PRIOR APPLICATION NUMBER: US 60/227,436
23 <151> PRIOR FILING DATE: 2000-08-23
25 <160> NUMBER OF SEQ ID NOS: 1145
27 <170> SOFTWARE: FastSEQ for Windows Version 3.0
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30 <211> LENGTH: 18
31 <212> TYPE: DNA
32 <213> ORGANISM: Artificial Sequence
34 <220> FEATURE:
35 <223> OTHER INFORMATION: Synthetic Sequence                  18
37 <400> SEQUENCE: 1
38   tctcccagcg tgcgccat
40 <210> SEQ ID NO: 2
41 <211> LENGTH: 20
42 <212> TYPE: DNA
43 <213> ORGANISM: Artificial Sequence
45 <220> FEATURE:
46 <223> OTHER INFORMATION: Synthetic Sequence                  20
48 <400> SEQUENCE: 2
49   ataatccagc ttgaaccaag
51 <210> SEQ ID NO: 3
52 <211> LENGTH: 20
53 <212> TYPE: DNA
54 <213> ORGANISM: Artificial Sequence
56 <220> FEATURE:
57 <223> OTHER INFORMATION: Synthetic Sequence                  20
59 <400> SEQUENCE: 3
60   ataatcgacg ttcaagcaag
62 <210> SEQ ID NO: 4
63 <211> LENGTH: 18
64 <212> TYPE: DNA
65 <213> ORGANISM: Artificial Sequence
67 <220> FEATURE:
68 <223> OTHER INFORMATION: Synthetic Sequence                  18
70 <400> SEQUENCE: 4
71   taccgcgtgc gaccctct
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 73 <210> SEQ ID NO: 5
 74 <211> LENGTH: 9
 75 <212> TYPE: DNA
 76 <213> ORGANISM: Artificial Sequence
 78 <220> FEATURE:
 79 <223> OTHER INFORMATION: Synthetic Sequence
 81 <400> SEQUENCE: 5                                                    9
 82   ggggagggt
 84 <210> SEQ ID NO: 6
 85 <211> LENGTH: 9
 86 <212> TYPE: DNA
 87 <213> ORGANISM: Artificial Sequence
 89 <220> FEATURE:
 90 <223> OTHER INFORMATION: Synthetic Sequence
 92 <400> SEQUENCE: 6                                                    9
 93   ggggagggg
 95 <210> SEQ ID NO: 7
 96 <211> LENGTH: 9
 97 <212> TYPE: DNA
 98 <213> ORGANISM: Artificial Sequence
100 <220> FEATURE:
101 <223> OTHER INFORMATION: Synthetic Sequence
103 <400> SEQUENCE: 7                                                    9
104   ggtgaggtg
106 <210> SEQ ID NO: 8
107 <211> LENGTH: 20
108 <212> TYPE: DNA
109 <213> ORGANISM: Artificial Sequence
111 <220> FEATURE:
112 <221> NAME/KEY: modified_base
113 <222> LOCATION: (8)...(8)
114 <223> OTHER INFORMATION: m5c
116 <223> OTHER INFORMATION: Synthetic Sequence
118 <400> SEQUENCE: 8                                                   20
119   tccatgtngt tcctgatgct
121 <210> SEQ ID NO: 9
122 <211> LENGTH: 15
123 <212> TYPE: DNA
124 <213> ORGANISM: Artificial Sequence
126 <220> FEATURE:
127 <221> NAME/KEY: modified_base
128 <222> LOCATION: (11)...(11)
129 <223> OTHER INFORMATION: m5c
131 <223> OTHER INFORMATION: Synthetic Sequence
133 <400> SEQUENCE: 9                                                   15
134   gctaccttag ngtga
136 <210> SEQ ID NO: 10
137 <211> LENGTH: 20
138 <212> TYPE: DNA
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file://C:\CRF3\Outhold\VsrI669187A.htm

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139 <213> ORGANISM: Artificial Sequence
141 <220> FEATURE:
142 <221> NAME/KEY: modified_base
143 <222> LOCATION: (8)...(8)
144 <223> OTHER INFORMATION: m5c
146 <223> OTHER INFORMATION: Synthetic Sequence                    20
148 <400> SEQUENCE: 10
149  tccatgangt tcctgatgct
151 <210> SEQ ID NO: 11
152 <211> LENGTH: 20
153 <212> TYPE: DNA
154 <213> ORGANISM: Artificial Sequence
156 <220> FEATURE:
157 <221> NAME/KEY: modified_base
158 <222> LOCATION: (13)...(13)
159 <223> OTHER INFORMATION: m5c
161 <223> OTHER INFORMATION: Synthetic Sequence                    20
163 <400> SEQUENCE: 11
164  tccatgacgt tcntgatgct
166 <210> SEQ ID NO: 12
167 <211> LENGTH: 15
168 <212> TYPE: DNA
169 <213> ORGANISM: Artificial Sequence
171 <220> FEATURE:
172 <221> NAME/KEY: modified_base
173 <222> LOCATION: (7)...(7)
174 <223> OTHER INFORMATION: m5c
176 <223> OTHER INFORMATION: Synthetic Sequence                    15
178 <400> SEQUENCE: 12
179  gctagangtt agtgt
181 <210> SEQ ID NO: 13
182 <211> LENGTH: 19
183 <212> TYPE: DNA
184 <213> ORGANISM: Artificial Sequence
186 <220> FEATURE:
187 <223> OTHER INFORMATION: Synthetic Sequence                    19
189 <400> SEQUENCE: 13
190  agctccatgg tgctcactg
192 <210> SEQ ID NO: 14
193 <211> LENGTH: 20
194 <212> TYPE: DNA
195 <213> ORGANISM: Artificial Sequence
197 <220> FEATURE:
198 <223> OTHER INFORMATION: Synthetic Sequence                    20
200 <400> SEQUENCE: 14
201  ccacgtcgac cctcaggcga
203 <210> SEQ ID NO: 15
204 <211> LENGTH: 20
205 <212> TYPE: DNA
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206 <213> ORGANISM: Artificial Sequence
208 <220> FEATURE:
209 <223> OTHER INFORMATION: Synthetic Sequence
                                                                    20
211 <400> SEQUENCE: 15
212  gcacatcgtc ccgcagccga
214 <210> SEQ ID NO: 16
215 <211> LENGTH: 19
216 <212> TYPE: DNA
217 <213> ORGANISM: Artificial Sequence
219 <220> FEATURE:
220 <223> OTHER INFORMATION: Synthetic Sequence
                                                                    19
222 <400> SEQUENCE: 16
223  gtcactcgtg gtacctcga
225 <210> SEQ ID NO: 17
226 <211> LENGTH: 25
227 <212> TYPE: DNA
228 <213> ORGANISM: Artificial Sequence
230 <220> FEATURE:
231 <223> OTHER INFORMATION: Synthetic Sequence
                                                                    25
233 <400> SEQUENCE: 17
234  gttggataca ggccagactt tgttg
236 <210> SEQ ID NO: 18
237 <211> LENGTH: 25
238 <212> TYPE: DNA
239 <213> ORGANISM: Artificial Sequence
241 <220> FEATURE:
242 <223> OTHER INFORMATION: Synthetic Sequence
                                                                    25
244 <400> SEQUENCE: 18
245  gattcaactt gcgctcatct taggc
247 <210> SEQ ID NO: 19
248 <211> LENGTH: 24
249 <212> TYPE: DNA
250 <213> ORGANISM: Artificial Sequence
252 <220> FEATURE:
253 <223> OTHER INFORMATION: Synthetic Sequence
                                                                    24
255 <400> SEQUENCE: 19
256  accatggacg aactgtttcc cctc
258 <210> SEQ ID NO: 20
259 <211> LENGTH: 24
260 <212> TYPE: DNA
261 <213> ORGANISM: Artificial Sequence
263 <220> FEATURE:
264 <223> OTHER INFORMATION: Synthetic Sequence
                                                                    24
266 <400> SEQUENCE: 20
267  accatggacg agctgtttcc cctc
269 <210> SEQ ID NO: 21
270 <211> LENGTH: 24
271 <212> TYPE: DNA
272 <213> ORGANISM: Artificial Sequence
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Input Set : A:\C1039-7035seq.txt
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274 <220> FEATURE:
275 <223> OTHER INFORMATION: Synthetic Sequence                  24
277 <400> SEQUENCE: 21
278  accatggacg acctgtttcc cctc
280 <210> SEQ ID NO: 22
281 <211> LENGTH: 24
282 <212> TYPE: DNA
283 <213> ORGANISM: Artificial Sequence
285 <220> FEATURE:
286 <223> OTHER INFORMATION: Synthetic Sequence                  24
288 <400> SEQUENCE: 22
289  accatggacg tactgtttcc cctc
291 <210> SEQ ID NO: 23
292 <211> LENGTH: 24
293 <212> TYPE: DNA
294 <213> ORGANISM: Artificial Sequence
296 <220> FEATURE:
297 <223> OTHER INFORMATION: Synthetic Sequence                  24
299 <400> SEQUENCE: 23
300  accatggacg gtctgtttcc cctc
302 <210> SEQ ID NO: 24
303 <211> LENGTH: 24
304 <212> TYPE: DNA
305 <213> ORGANISM: Artificial Sequence
307 <220> FEATURE:
308 <223> OTHER INFORMATION: Synthetic Sequence                  24
310 <400> SEQUENCE: 24
311  accatggacg ttctgtttcc cctc
313 <210> SEQ ID NO: 25
314 <211> LENGTH: 25
315 <212> TYPE: DNA
316 <213> ORGANISM: Artificial Sequence
318 <220> FEATURE:
319 <223> OTHER INFORMATION: Synthetic Sequence                  25
321 <400> SEQUENCE: 25
322  ccactcacat ctgctgctcc acaag
324 <210> SEQ ID NO: 26
325 <211> LENGTH: 25
326 <212> TYPE: DNA
327 <213> ORGANISM: Artificial Sequence
329 <220> FEATURE:
330 <223> OTHER INFORMATION: Synthetic Sequence                  25
332 <400> SEQUENCE: 26
333  acttctcata gtccctttgg tccag
335 <210> SEQ ID NO: 27
336 <211> LENGTH: 20
337 <212> TYPE: DNA
338 <213> ORGANISM: Artificial Sequence
340 <220> FEATURE:
```

FYI:

Please Note:
**Use of n and/or Xaa have been detected in the Sequence Listing. Please review the
Sequence Listing to ensure that a corresponding explanation is presented in the <220> to
<223> fields of each sequence which presents at least one n or Xaa.**

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VERIFICATION SUMMARY
PATENT APPLICATION: US/09/669,187A

DATE: 02/05/2001
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Input Set : A:\C1039-7035seq.txt
Output Set: N:\CRF3\02052001\I669187A.raw

```
L:119 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:8
L:134 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:9
L:149 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:10
L:164 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:11
L:179 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:12
L:367 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:28
L:390 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:29
L:603 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:48
L:1051 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:88
L:1066 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:89
L:1342 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:113
L:2072 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:179
L:2087 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:180
L:2561 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:222
L:2878 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:249
L:2912 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:251
L:3279 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:284
L:3327 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:288
L:3362 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:289
L:3543 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:304
L:3654 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:313
L:3904 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:335
L:3923 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:336
L:3938 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:337
L:3953 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:338
L:4145 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:354
L:4205 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:358
L:4845 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:414
L:7993 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:698
L:8096 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:707
L:8122 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:709
L:8137 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:710
L:8343 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:728
L:8358 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:729
L:8373 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:730
L:8388 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:731
L:8403 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:732
L:8723 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:760
L:8749 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:762
L:8764 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:763
L:8787 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:764
L:9189 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:798
L:9219 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:800
L:9238 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:801
L:9257 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:802
L:9276 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:803
L:11495 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1001
L:11917 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1039
```

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Input Set : A:\C1039-7035seq.txt
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L:12112 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:1056